

Micro-Slit Collimators for X-ray/Gamma-ray Imaging, Phase I

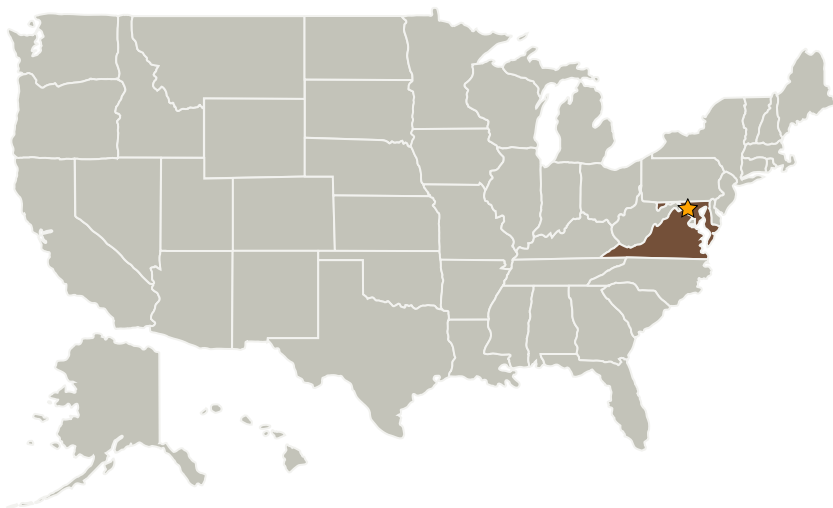
Completed Technology Project (2004 - 2004)



Project Introduction

Mikro Systems, Inc. (MSI) will advance the state-of-the-art in high resolution, high-aspect-ratio x-ray/gamma-ray collimator fabrication into the micro-slit regime (slit pitch on the order of 10-20 microns) through the use of an innovative hybrid micro-machining technology. To achieve high resolution imaging at hard x-ray and gamma-ray energies, grid-based optics are currently required. Fine grids, having high-aspect-ratio (>50:1) and made from dense materials, are the enabling components for solar and astrophysical imaging with high angular resolution at x-ray and gamma-ray energies. Instrumentation for these missions is severely constrained by size and mass considerations. Since the angular resolution scales with the grid-aperture to instrument-length ratio, the ability to produce grids with finer pitch has the direct result of higher angular resolution and/or overall reduction in instrument size and mass.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Mikro Systems, Inc.	Supporting Organization	Industry	Charlottesville, Virginia



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Maryland

Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Michael Appleby

Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.1 Detectors and Focal Planes